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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/988,252

11/19/2001

Genji Imai

011492

8385

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7590

04/25/2003

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EXAMINER

TALBOT, BRIAN K

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 04/25/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,252

Applicant(s)

IMAI ET AL.

Examiner

Brian K Talbot

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. Claims 1-18 remain in the application.

Drawings

2. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 2000-277887.

JP 2000-277887 teaches a method of forming a conductive pattern by applying a photosensitive conductive paste to a support and drying to thereby form a film. The paste comprises an organic bonder, a photosensitive organic component, metallic powder and a mono-ol compound, exposing and developing the film to form conductive patterns and then transferring

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the conductive patterns from the support to a ceramic green sheet (see abstract and paragraph [0048] – paragraph [0054]). The conductive powder can be chosen from a list of powders ([0041-0042]). The photosensitive conductive paste may be either a negative or positive paste ([paragraph [0056]). The exposure is by a mercury lamp with light at 20-5000mJ/cm2 (paragraph [0050]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10,15,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2350727A.

JP 2000-277887 fails to teach exposing by visible, UV light.

While the Examiner acknowledges this fact, it is the Examiner's position that one skilled in the art at the time the invention was made would have had a reasonable expectation of achieving similar results regardless of the type of "irradiation utilized". Hence, it would have been within the skill of a practitioner in the art to use an irradiation means utilizing visible or UV light in the process with the expectation of similar success. If Applicant disagrees, Applicant is invited to supply a showing of unexpected results directly related to the irradiation means. Upon

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such a showing, the Examiner will reconsider this position. Applicant is reminded that all claims need to be commensurate in scope with this showing.

Claims 11,12,17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-277887 in combination with JP 11-194,493, JP 10-334,732 or JP 10-273,338.

JP 2000-277887 fails to teach the addition of glass frit in the positive photosensitive paste.

Features described above are incorporated here.

JP 11-194,493, JP 10-334,732 or JP 10-273,338 all teach photosensitive paste for forming conductive patterns whereby a glass frit is included in the composition.

Therefore, it would have been obvious at the time the invention was made to have modified JP 2000-277887 photosensitive paste with glass frit as evidenced by JP 11-194,493, JP 10-334,732 or JP 10-273,338 with the advantages associated with its use, i.e. high accuracy, low resistivity, improved bonding, etc.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-277887 in view of JP 06-260381.

Features described above are incorporated here.

JP 2000-277887 fails to teach directly coating the photosensitive conductive composition on a substrate without using a release film or transfer sheet.

JP 06-260381 teaches applying positive photosensitive coating composition on a substrate, exposing and developing the coating to form a patterned coating.

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Therefore, it would have been obvious at the time the invention was made to have modified JP 2000-277887 process by coating the substrate directly as evidenced by JP 06-260381 because of the expectation of achieving similar success. In addition, the production steps could be reduced and therefore produce a higher throughput for the process by avoiding the steps of coating a transfer sheet and transferring the coating.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-277887 in view of JP 06-260381.

JP 2000-277887 in view of JP 06-260381 fail to teach exposing by visible, UV light.

While the Examiner acknowledges this fact, it is the Examiner's position that one skilled in the art at the time the invention was made would have had a reasonable expectation of achieving similar results regardless of the type of "irradiation utilized". Hence, it would have been within the skill of a practitioner in the art to use an irradiation means utilizing visible or UV light in the process with the expectation of similar success. If Applicant disagrees, Applicant is invited to supply a showing of unexpected results directly related to the irradiation means. Upon such a showing, the Examiner will reconsider this position. Applicant is reminded that all claims need to be commensurate in scope with this showing.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-277887 in view of JP 06-260381 further in combination with JP 11-194,493, JP 10-334,732 or JP 10-273,338.

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JP 2000-277887 in view of JP 06-260381 fail to teach the addition of glass frit in the positive photosensitive paste.

Features described above are incorporated here.

JP 11-194,493, JP 10-334,732 or JP 10-273,338 all teach photosensitive paste for forming conductive patterns whereby a glass frit is included in the composition.

Therefore, it would have been obvious at the time the invention was made to have modified JP 2000-277887 in view of JP 06-260381 photosensitive paste with glass frit as evidenced by JP 11-194,493, JP 10-334,732 or JP 10-273,338 with the advantages associated with its use, i.e. high accuracy, low resistivity, improved bonding, etc.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K Talbot whose telephone number is (703) 305-3775. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3775.



Brian K Talbot
Primary Examiner
Art Unit 1762

BKT
April 21, 2003